

**WHAT IS CLAIMED IS:**

1. A method of authenticating an originator of a packet in a network, comprising:

filtering the packet for a tag embedded therein;

5 reading the tag contents including an identifier and an encrypted hash;

decrypting the encrypted hash included in the tag;

calculating a second hash from the identifier of the originator; and

authenticating the originator of the packet upon determining the decrypted hash and the calculated hash are identical.

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2. The method according to claim 1, wherein reading the tag contents including an identifier further comprises reading the tag contents including a uniform resource locator.

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3. The method according to claim 1, wherein decrypting the encrypted hash included in the tag further comprises decrypting the encrypted hash with a public key assigned to the originator.

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4. The method according to claim 1, wherein calculating a second hash from the identifier of the originator further comprises calculating the second hash from an instance of a hashing algorithm used by the originator to generate the encrypted hash.

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5. The method according to claim 1, further comprising specifying a billing treatment for the packet upon authentication of the originator.

6. The method according to claim 5, wherein specifying a billing treatment for the packet further comprises writing a differentiated services codepoint into the packet upon authentication of the originator.

7. The method according to claim 6, wherein writing a differentiated services codepoint into the packet further comprises writing a differentiated services codepoint into at least one of a traffic class octet of an Internet protocol version six packet and a type-of-service field of an Internet protocol version four packet.

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8. The method according to claim 5, wherein specifying a billing treatment for the packet upon authentication of the originator further comprises interrogating a database of billing treatment directives, the database including a record containing the identifier of the originator and an associated record specifying the billing treatment.

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9. The method according to claim 8, wherein interrogating a database of billing treatment directives further comprises interrogating the database that includes a record containing a uniform resource locator of the originator and the associated record contains a differentiated service code point.

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10. The method according to claim 9, wherein interrogating the database further comprises:

supplying the database with the identifier read from the tag contents, the identifier indexing the record containing the uniform resource locator; and

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reading the differentiated service code point from the associated record.

11. The method according to claim 5, further comprising:

generating a call detail record having a traffic volume count of a data session that includes the packet; and

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calculating a tariff for the data session based upon the contents of the call detail record.

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12. The method according to claim 11, wherein calculating a tariff for the data session further comprises calculating the tariff and levying the tariff against the originator of the packet.

13. The method according to claim 11, wherein calculating a tariff for the data session further comprises parsing the traffic volume count from other traffic volume counts included in the call detail record, the calculated tariff calculated for the parsed traffic volume count independently of the other traffic volume counts.

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14. The method according to claim 11, wherein generating a call detail record having a traffic volume count further comprises generating a call detail record having the traffic volume count and the identifier associated therewith.

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15. A node in a network for authenticating an originator of a packet, comprising:

a processing unit;

5 a memory unit operable to store an authentication algorithm therein that is executable by the processing unit; and

an interface to a network medium operable to receive the packet, the authentication algorithm operable to filter the packet for a tag embedded therein, decrypt an encrypted hash in the embedded tag, calculate a hash from an identifier in the tag, and  
10 authenticate the originator upon a comparison between the decrypted hash and the calculated hash.

15. The node according to claim 15, further comprising an instance of a hashing algorithm executable by the processing unit, a second instance of the hashing algorithm executable by the originator of the packet and operable to generate the encrypted hash.

20. The node according to claim 15, further comprising an accounting algorithm executable by the processing unit and operable to generate a call detail record including a traffic volume count of a data session including the packet.

18. The node according to claim 17, wherein the call detail record further includes the identifier in association with the traffic volume count.

25. 19. The node according to claim 15, wherein the identifier is a uniform resource locator of the originator.

30. 20. The node according to claim 15, further comprising a database having a record maintaining an identification of the originator and an associated record having a traffic treatment specification, the node operable to condition the packet such that the network forwards the packet according to parameters associated with the traffic treatment specification.

21. The node according to claim 20, wherein the traffic treatment specification is a differentiated services codepoint.

5        22. The node according to claim 21, wherein the node is operable to write the differentiated services codepoint into at least one of a traffic class octet of an Internet protocol version six packet and a type-of-service field of an Internet protocol version four packet.

10        23. The node according to claim 17, wherein the node is operable to forward the call detail record to a second node in the network operable to perform billing procedures on the contents thereof.

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24. A telecommunication network operable to transmit a data packet from an originator to a terminating device within the network, the network comprising:

5        a first node connected to a data network and operable to receive the packet generated by the originator, the first node operable to execute an authentication algorithm operable to filter the packet for a tag embedded therein, decrypt an encrypted hash in the embedded tag, calculate a hash from an identifier in the tag, and authenticate the originator upon a comparison between the decrypted hash and the calculated hash; and

10      a second node operable to receive the packet from the first node and transmit the packet to a terminating device.

25. The network according to claim 24, wherein the terminating device is a mobile terminal.

15      26. The network according to claim 25, wherein the network is a mobile telecommunication system and the second node is a switching system, the network further comprising:

      a base station subsystem; and

      a base transceiver station managed by the base station subsystem, the terminating

20      device in communication with the base transceiver station.

27. The network according to claim 26, wherein the first node is a gateway general packet radio services support node.

25      28. The network according to claim 24, wherein the originator is operable to execute a first instance of a hashing algorithm that generates the encrypted hash, the first node further comprising a second instance of the hashing algorithm operable to calculate the hash from the identifier in the tag.

30      29. The network according to claim 24, further comprising an accounting algorithm executable thereby and operable to generate a call detail record including a traffic volume count of a data session including the packet.

30. The network according to claim 29, wherein the call detail record further includes the identifier in association with the traffic volume count.

5 31. The network according to claim 30, wherein the identifier is a uniform resource locator of the originator.

10 32. The network according to claim 31, further comprising a database having a record maintaining an identification of the originator and an associated record having a traffic treatment specification, the first node operable to condition the packet such that the network forwards the packet according to parameters associated with the traffic treatment specification

15 33. The network according to claim 32, wherein the traffic treatment specification is a differentiated services codepoint.

20 34. The network according to claim 33, wherein the first node is operable to write the differentiated services codepoint into at least one of a traffic class octet of an Internet protocol version six packet and a type-of-service field of an Internet protocol version four packet

35. The network according to claim 34, wherein the first node and the second node are operable to provide forwarding treatments of the packet across the network according to service specifications associated with the differentiated services codepoint.

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36. The network according to claim 24, further comprising a billing node operable to perform billing procedures on a call detail record, the billing node including an interface with the first node and operable to receive a call detail record thereon, the billing node operable to execute a billing algorithm operable to generate a tariff dependent on contents of a traffic volume container included in the call detail record, the call detail record having the identifier of the originator associated therewith, the tariff further dependent on the identifier.

37. The network according to claim 36, wherein the tariff is levied against the originator.

5 38. The network according to claim 36, wherein the tariff is levied against the terminating device.

39. The network according to claim 36, wherein the call detail record includes other traffic volume containers, the tariff dependent on the identifier being independent of the other traffic volume containers.

19. The following table shows the number of hours worked by 1000 workers in a certain industry. Calculate the mean number of hours worked.